

Date

Friday, 09/05/2008 1:45:34 PM

Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 39159
Estimate Number : 11227
P.O. Number :
This Issue : 09/05/2008 **S.O. No.** :
Prsht Rev. : NC
First Issue : // **Type** : THERMOFORMING
Previous Run : 38018
Written By :
Checked & Approved By : JUP 08.5.09
Comment : Est Rev.A 04.07.01 New issue KJ/JLM
 Est. Rev B. 07.16.2007 Thermoform in house DL
 Est Rev C. 08.02.06 To reflect updated Dwg. DL
 Est Rev. D 08.04.15 Material Change DL

Drawing Name : FLOOR PROTECTOR FWD LH
Part Number : D32811
Drawing Number : D3281 REV D
Project Number : N/A
Drawing Revision : D
Material :
Due Date : 16/05/2008 **Qty:** 10 **Um:** Each

Additional Product

Job Number:



Seq. #: **Machine Or Operation:** **Description:**

1.0 MLEXS093F600602 GE PLASTICS LEXAN SHEET



Comment: Qty.: 4.3330 sf(s)/Unit Total: 43.3300 sf(s)
GE PLASTICS LEXAN SHEET

Material Batch Number M106751

2.0 HAND FINISH TH HAND FINISHING THERMOFORMING



Comment: HAND FINISHING THERMOFORMING

1) Cut Blanks

BB 08/05/15

X10

3.0 THERMOFORMING THERMOFORMING MACHINE



(P10) →

Comment: THERMOFORMING MACHINE

Thermoform as per Dwg. D32811 and Folio FTA 011

Dwg. Rev. D

Folio Rev. B

BB 08/05/15

4.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



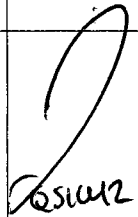
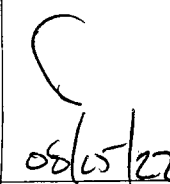
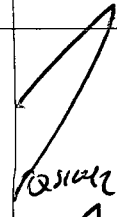
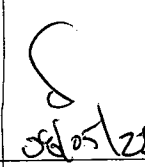
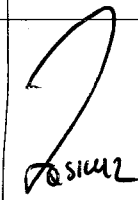
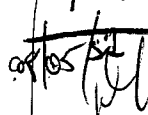
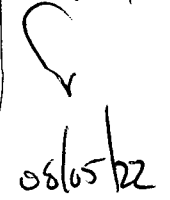

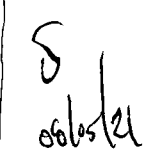
BB 08/05/15 X10

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 3281-1 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR: 39159		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/05/21	2.0 5.0	Forming Error Trimming Error						
08/05/21	# 2.0	two parts scrap on thermoforming one - operator forgot to reset the machine temperature.		Scrap and Destroy, and Replace Qty (42) B# M106751	BB 08/05/21			
		one - temp was not adjusted as the day went on.		ADD note in Folio to insure that the machine temp is reset.	BB 08/05/21 			

NOTE: Date & initial all entries

Date: Friday, 09/05/2008 1:45:34 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOOR PROTECTOR FWD LH

Job Number: 39159

Part Number: D32811

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISH TH

HAND FINISHING THERMOFORMING



PD →

Comment: HAND FINISHING THERMOFORMING

1) Trim to Finished Dimensions

BB 08/05/21 X 10

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

1) Check Surface finish for undesired marks, voids, dimples etc.

2) Check dimensions to ensure conformity to drawing tolerances.

B 08/05/21 X 10

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/05/22 (X10)

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

8/5/22 SP (10x)

9.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/05/23

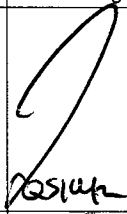
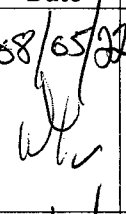



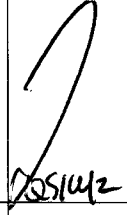
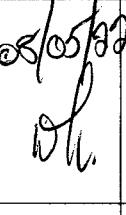
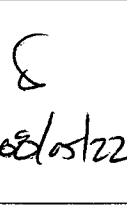


Job Completion



11 08/05/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3281-1 PAR #: N/A Fault Category: Prod/Thermoforming NCR: Yes No DQA: A Date: 08/05/22
 QA: N/C Closed: _____ Date: _____

NCR: 39159		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/05/22	#5.0	two parts scrap Due to improper trimming. R.C. Parts heat up to the point of burning employees hand. Solution is		Scrap and destroy and replace. Qty (x2) B# M106751	08/05/22 	08/05/22 		08/05/22 
		has hand. Solution is		Solution is to use a Black Delrin Block to hold down part while trimming / need large trimming surface.	08/05/22 	08/05/22 		08/05/22 

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 39159
Description: Floor Protector, Fwd LH		Part Number: D3281-1
Inspection Dwg: D3281	Rev: D	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than 0.1875" Go/No Go	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: BB	Date: 08/05/20
------------------------	-----------------------

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
18.6	+/-0.100	18.62	✓			
17.1	+/-0.100	17.15	✓			
11.7	+/-0.100	11.65	✓			
0.95	+/-0.030	0.978	✓			
0.25	+/-0.030	0.265	✓			
0.030	Min	0.049	✓			
0.070	+/-0.010	0.086	✓			

Measured by: BB	Date: 08/05/20
Audited by: S	Date: 08/05/20
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.02.28	New Issue	KJ/DL	
B	08.04.16	Dimensions updated per Dwg Rev D	KJ/DL	

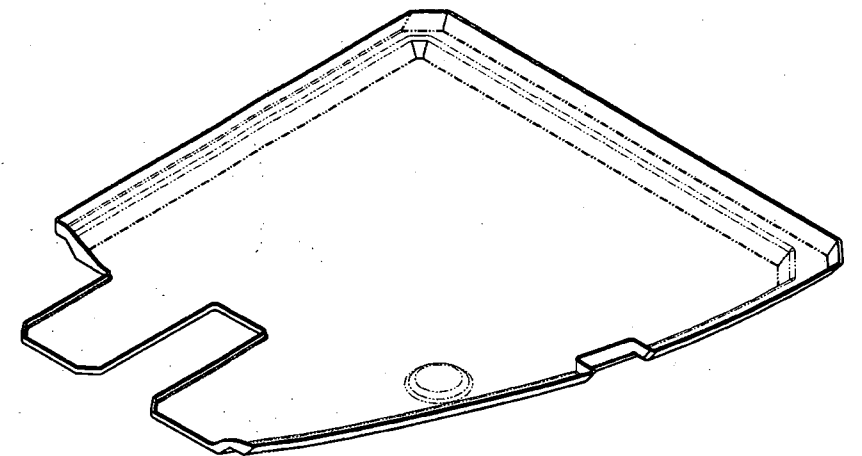
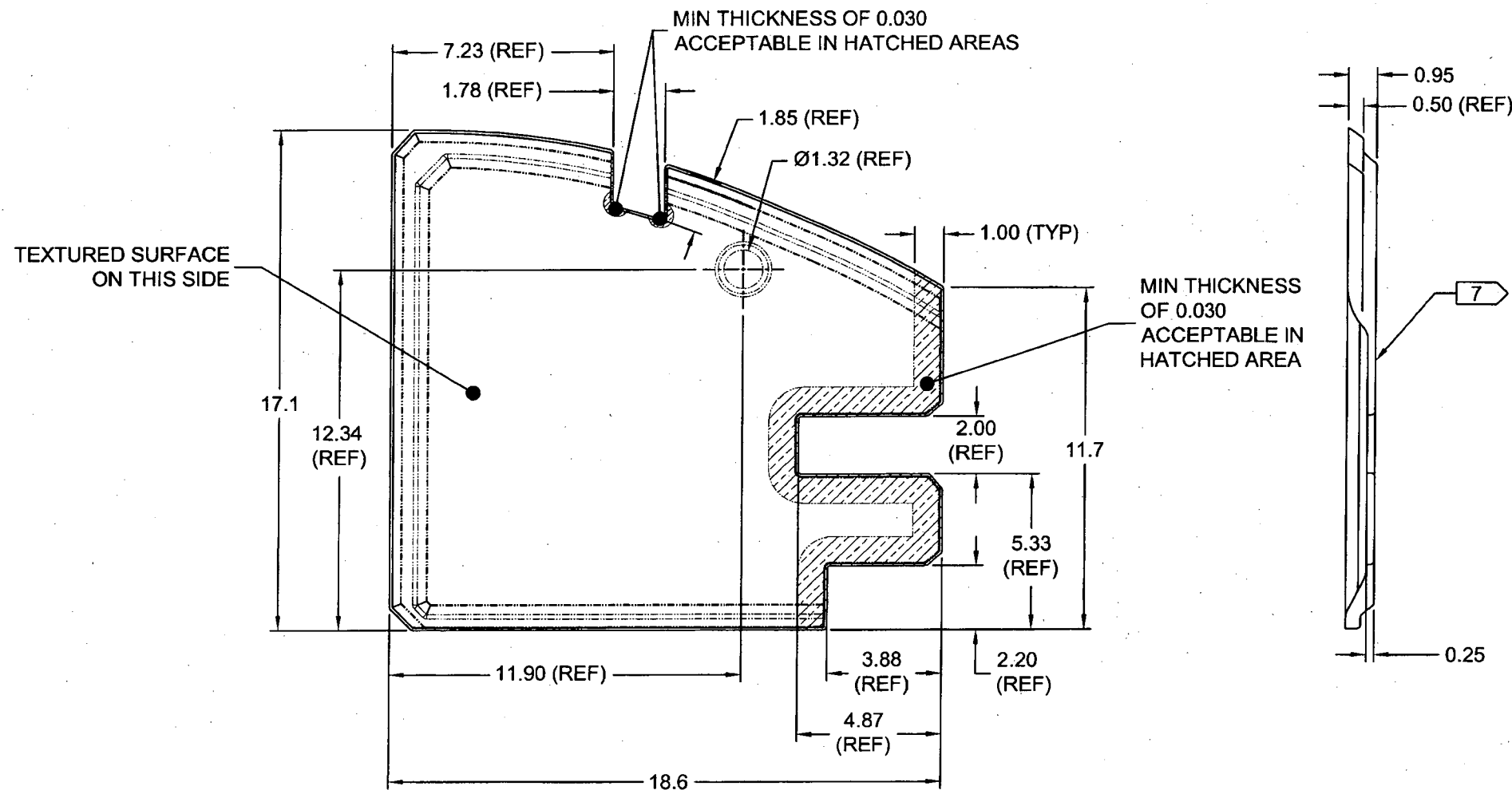
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
	2.0							

NOTE: Date & initial all entries



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 39159

RELEASED
08.04.11 WPD

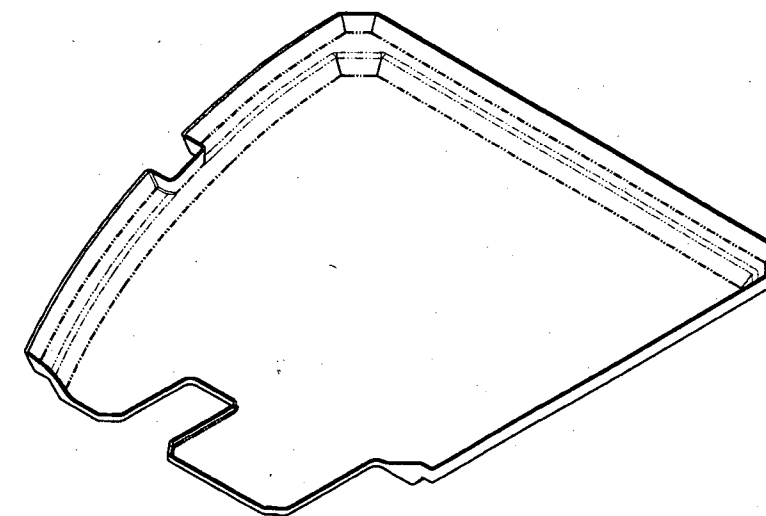
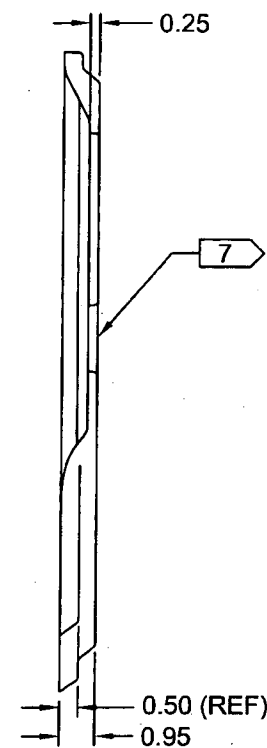
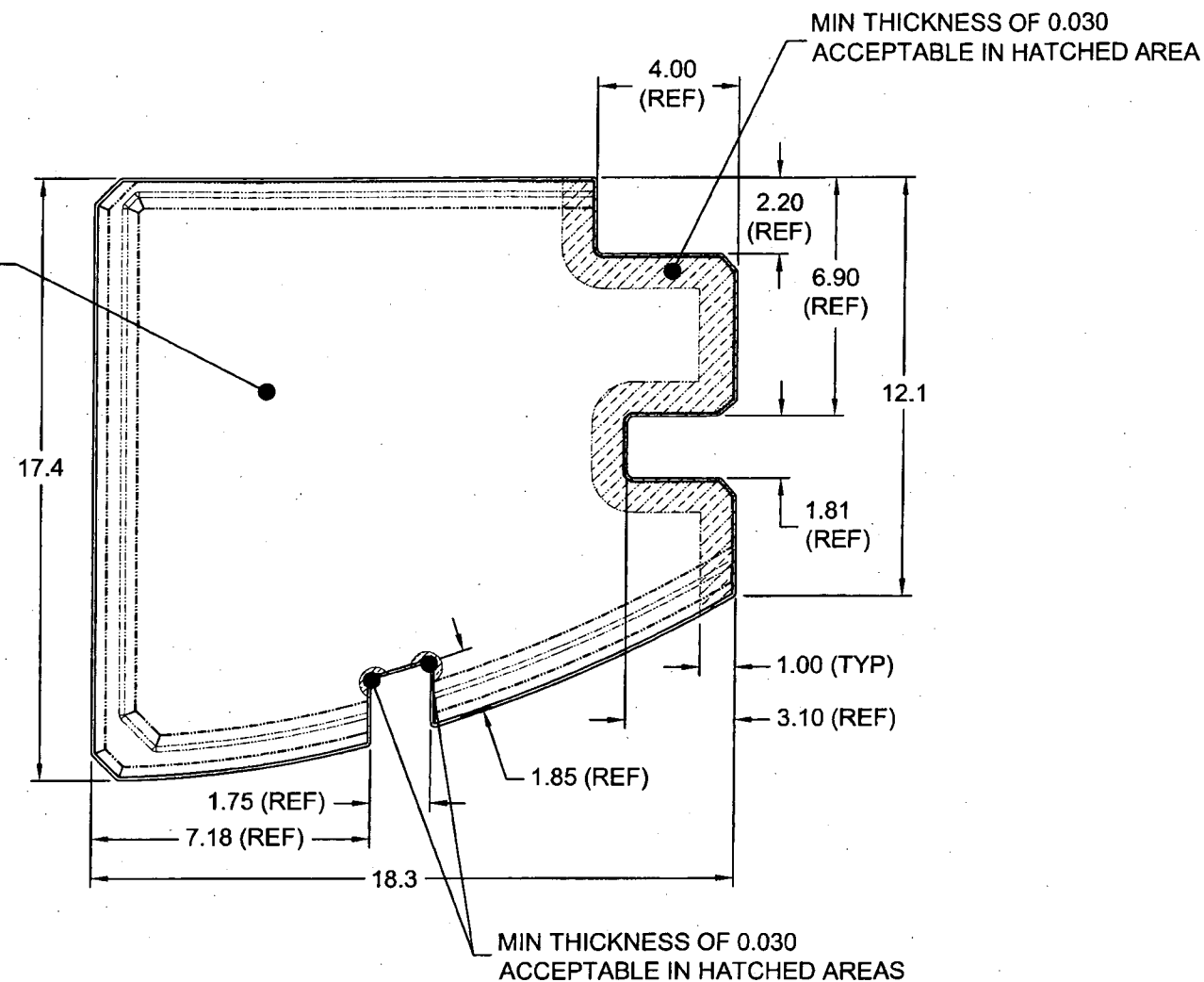
D3281-1 FLOOR PROTECTOR

D3281-1 NOTES:

- 1) THERMOFORM WITH MOLD D3281-1T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-1" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.95 lb

D	THICKNESS 0.093 WAS 0.125, MIN THICKNESS 0.070 WAS 0.080, P/N AND B/N ID WITH VIBRATING STYLUS (ZN A7-1, A7-2, A7-3, A7-4); D3281-4 NOW ON PAGE 4; CORRECT WEIGHTS (ZN A8-1, A8-2, A8-3, A8-4)	PH	08.03.28
C	UPDATE DIMS TO MATCH PARTS: COLOUR 701 WAS 700; GENERAL UPDATE	LE	07.10.09
B	NOW LEXAN; DIMS AS MANUFACTURED	CP	05.11.25
A	NEW ISSUE	CP	04.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	42	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. D D3281 SHEET 1 OF 4 TITLE SCALE FLOOR PROTECTOR NTS COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	PH		
CHECKED	3		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	08.03.28		

TEXTURED SURFACE
ON THIS SIDE



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 39159

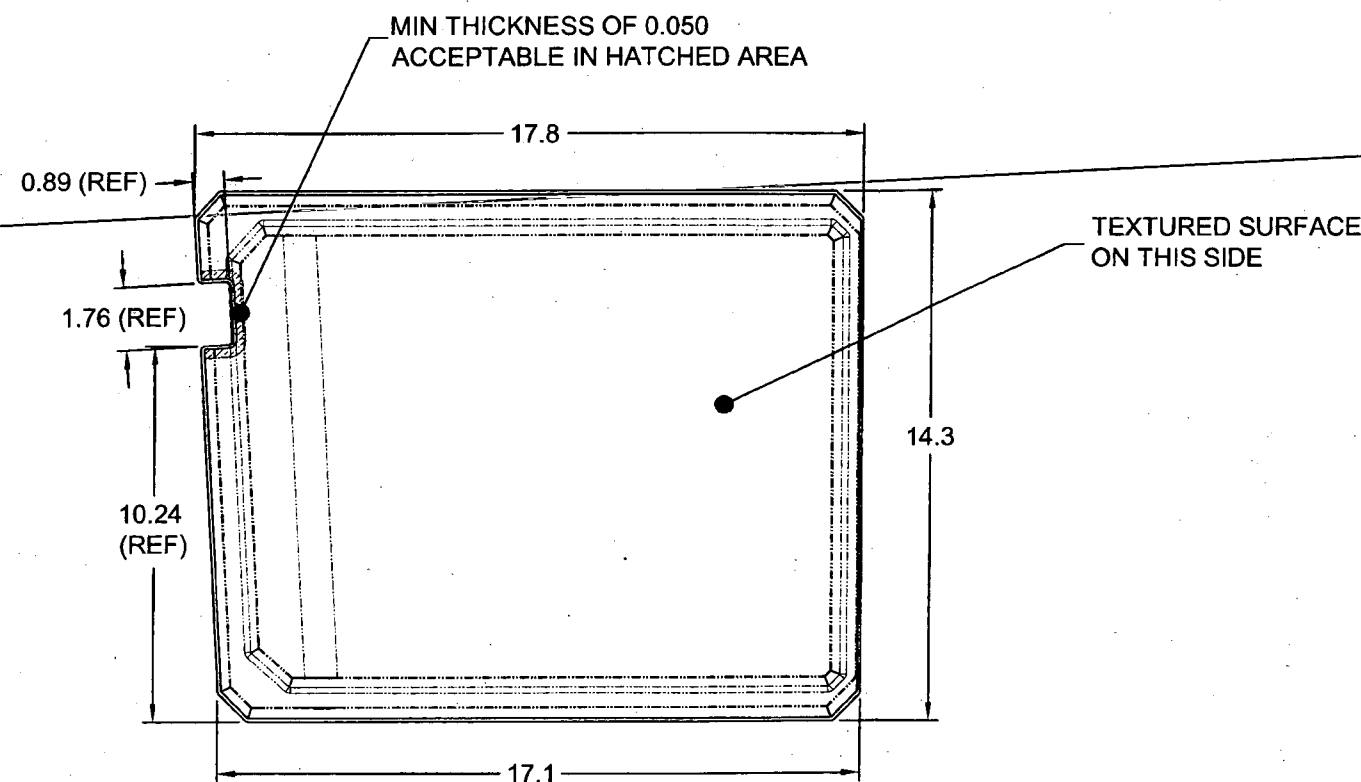
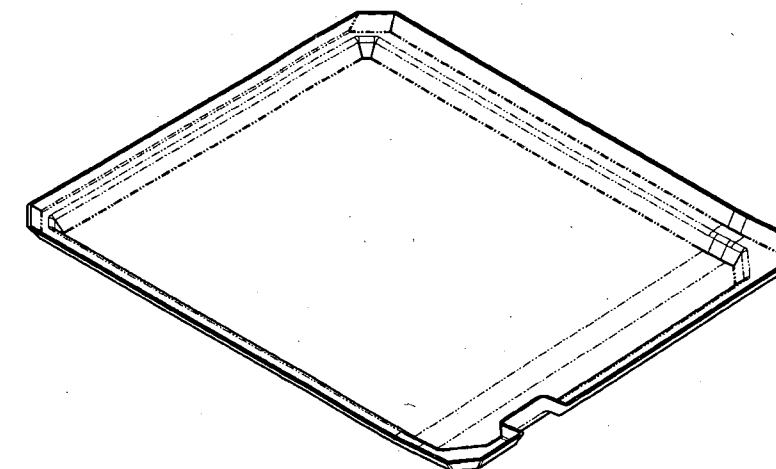
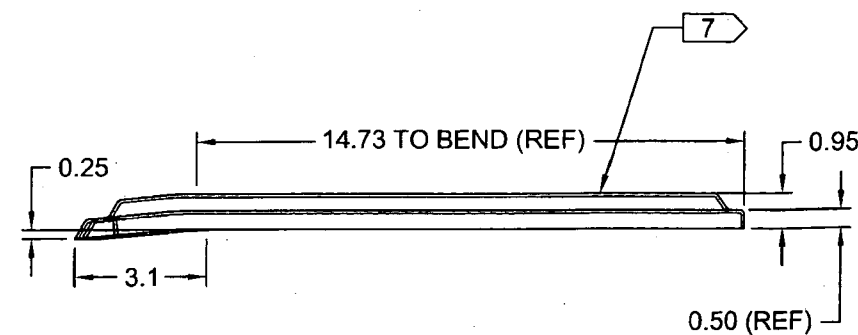
D3281-2 FLOOR PROTECTOR

D3281-2 NOTES:

- 1) THERMOFORM WITH MOLD D3281-2T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-2" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.97 lb

RELEASED
11 06 11 04

DESIGN	90	DART AEROSPACE LTD	
DRAWN	PH	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3281	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		FLOOR PROTECTOR	NTS
DATE	08.03.28	<small>COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



D3281-3 FLOOR PROTECTOR

D3281-3 NOTES:

- 1) THERMOFORM WITH MOLD D3281-3T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-3" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.87 lb

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 39159

RELEASED
08-04-11 MD

DESIGN	92	DART AEROSPACE LTD	
DRAWN	94	HAWKESBURY, ONTARIO, CANADA	
CHECKED	3	DRAWING NO.	REV. D
MFG. APPR.	MD	D3281	SHEET 3 OF 4
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	FLOOR PROTECTOR	NTS
DATE	08.03.28	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8

7

6

5

4

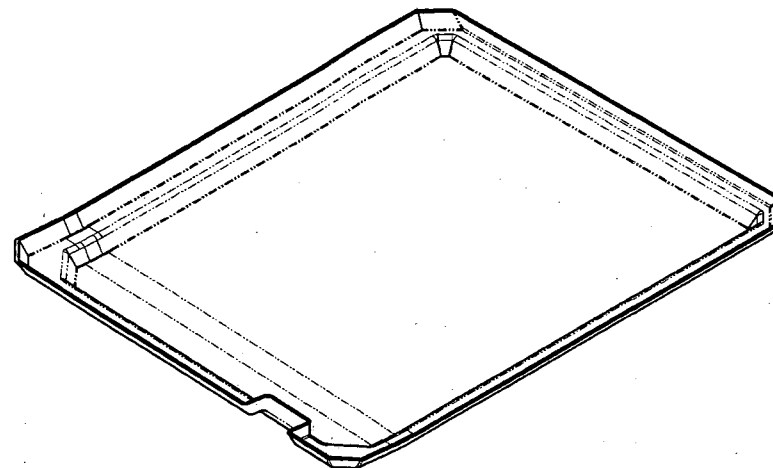
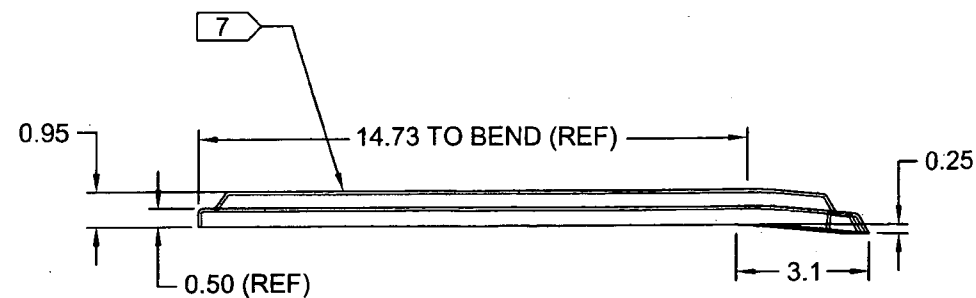
3

2

1

D

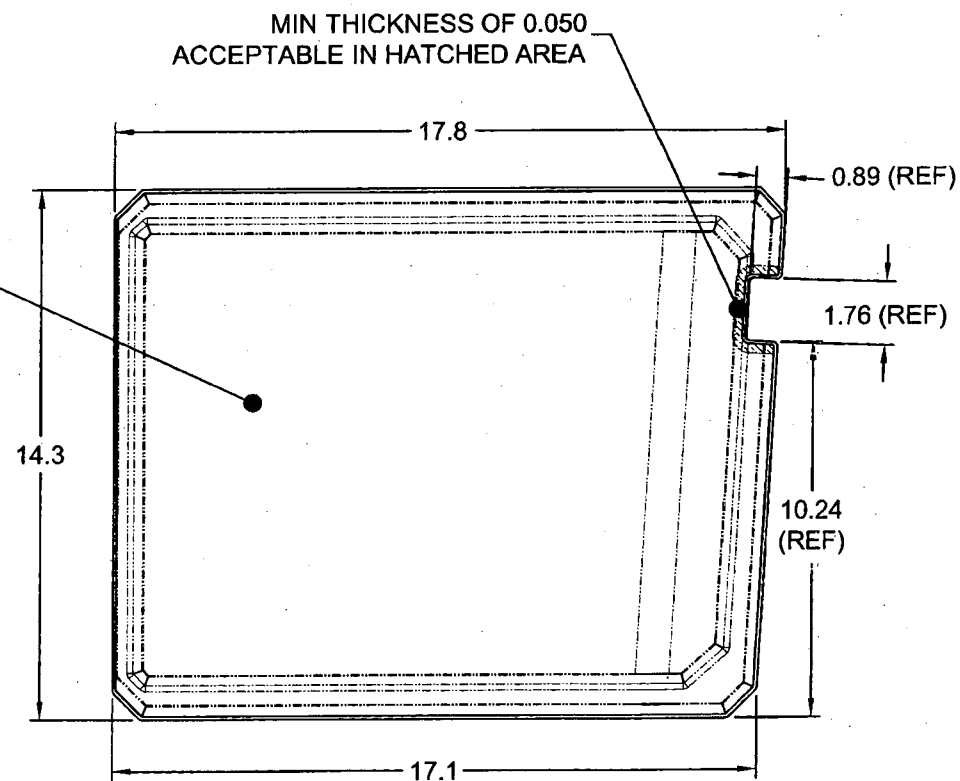
D



C

C

TEXTURED SURFACE
ON THIS SIDE



B

B

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 39159

D3281-4 FLOOR PROTECTOR

D3281-4 NOTES:

- 1) THERMOFORM WITH MOLD D3281-4T1 PER DART QSI 022; TRIM AS SHOWN
MINIMUM THICKNESS AFTER FORMING: 0.070" EXCEPT WHERE INDICATED
- 2) MATERIAL: LEXAN F6006, BLACK No. 701, 0.093" THICK
(REF DART SPEC MLEXS.093-F6006-02)
- 3) FINISH: NONE
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D3281-4" AND BATCH NUMBER "BXXXXX" ON SMOOTH SIDE OF PART USING VIBRATING STYLUS
- 8) WEIGHT: 0.87 lb



RELEASED
08-04-11 MJD

DESIGN	41	DART AEROSPACE LTD	
DRAWN	RH	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.	510	D3281	SHEET 4 OF 4
APPROVED	AM	TITLE	SCALE
DE APPR.		FLOOR PROTECTOR	NTS
DATE	08.03.28	<small>COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

8

7

6

5

4

3

2

1

A